

Please amend the above-identified application as follows:

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1 - 17. (Cancelled)

18. (Previously Presented) A liquid crystal light modulation element comprising a liquid crystal layer held between first and second substrates and including a liquid crystal material exhibiting a cholesteric phase and having a peak of a selective reflection wavelength in a visible wavelength range,

wherein said liquid crystal layer in a selective reflection state has pixel regions near the first and second substrates, and liquid crystal domains in the pixel regions near at least one of said first and second substrates are in a mixed state including a polydomain state and a monodomain state.

19. (Previously Presented) A liquid crystal light modulation element according to claim 18, wherein, in the selective reflection state, a ratio between the liquid crystal domains taking the polydomain state and the liquid crystal domains taking the monodomain state is different between the liquid crystal domain in each of the pixel regions near the first substrate and the liquid crystal domain in each of the corresponding pixel regions near the second substrate.

20. (Previously Presented) A liquid crystal light modulation element according to claim 19, wherein, in the selective reflection state, the liquid crystal domains in each of the pixel regions near the first substrate include the liquid crystal domains taking said polydomain state at a higher rate than the liquid crystal domains in a corresponding one of

the pixel regions near the second substrate, the first substrate being on an element observation side of said liquid crystal light modulation element.

21. (Previously Presented) A liquid crystal light modulation element according to claim 18, wherein, in the selective reflection state, the liquid crystal domains in each of the pixel regions near the first substrate takes said mixed state and the liquid crystal domains in each of the pixel regions near the second substrate take only said polydomain state.

22. (Previously Presented) A liquid crystal light modulation element according to claim 21, wherein the second substrate is on an element observation side of said liquid crystal light modulation element.

23. (Previously Presented) A liquid crystal light modulation element according to claim 18, further comprising an orientation control layer, said orientation control layer being on the at least one of said first and second substrates having near liquid crystal domains in said mixed state, and said orientation control layer being in contact with the liquid crystal layer,

wherein the liquid crystal domains in said mixed state and the selective reflection state are subjected to orientation control by the orientation control layer.

24. (Previously Presented) A liquid crystal light modulation element according to claim 23, wherein said orientation control is effected by a rubbing process effected on a side of said orientation control layer in contact with the liquid crystal layer having liquid crystal domains in said mixed state.

25. (Previously Presented) A liquid crystal light modulation element according to claim 24, wherein said orientation control layer subjected to the rubbing process has a rubbing density of 10 or lower.

26. (Previously Presented) A liquid crystal light modulation element according to claim 24, wherein said rubbing process is performed by emitting light under predetermined conditions onto the side of the orientation control layer in contact with the liquid crystal layer having liquid crystal domains in said mixed state.

27. (Currently Amended) A liquid crystal light modulation element according to claim 26, wherein said predetermined conditions ~~[[is]]~~are selected from the group consisting of an amount of the emitted light, a substrate temperature, and an incident angle of the incident light on the orientation control layer.

28. (Previously Presented) A liquid crystal light modulation element according to claim 26, wherein said emitted light is ultraviolet light.

29-37. (Cancelled)

38. (Previously Presented) A liquid crystal light modulation element according to claim 18, wherein, in the selective reflection state, an angle of a cholesteric helical axis of the liquid crystal material in each of the liquid crystal domains in the pixel regions near the first and second substrates with respect to a substrate normal is  $20^{\circ}$  or less.

39. (Cancelled)

40. (Previously Presented) A multilayer liquid crystal light modulation element comprising a plurality of liquid crystal light modulation layers stacked together, wherein at least one of said plurality of liquid crystal light modulation layers includes:

a liquid crystal light modulation unit comprising a liquid crystal layer held between first and second substrates and including a liquid crystal material exhibiting a cholesteric phase and having a peak of a selective reflection wavelength in a visible wavelength range,

wherein said liquid crystal layer in a selective reflection state has pixel regions

near the first and second substrates, and liquid crystal domains in the pixel regions near at least one of said first and second substrates are in a mixed state including a polydomain state and a monodomain state.

41. (Cancelled)

42. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 40, wherein, within one of the plurality of liquid crystal light modulation layers, an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the first substrate, the first substrate being on an observation side of the one of the plurality of liquid crystal light modulation layers, the one of the plurality of liquid crystal light modulation layers being in the selective reflection state, with respect to a substrate normal is larger than an angle of the cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the second substrate, the second substrate being on a non-observation side of the one of the plurality of liquid crystal light modulation layers, the one of the plurality of liquid crystal light modulation layers being in the selective reflection state, with respect to the substrate normal.

43. (Cancelled)

44. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 40, wherein, in any neighboring liquid crystal light modulation layers, an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the second substrate of an observation side one of the neighboring liquid crystal light modulation layers, the second substrate of the observation side one of the neighboring liquid crystal light modulation layers being on a non-observation side of the observation side one of the neighboring liquid crystal light modulation layers, the observation side one of the neighboring liquid crystal light modulation layers being in the selective reflection state, with respect to a substrate normal is larger than an angle of a cholesteric helical axis of the liquid crystal material in the

liquid crystal domains of each of the pixel regions near the first substrate of a non-observation side one of the neighboring liquid crystal light modulation layers, the first substrate of the non-observation side one of the neighboring liquid crystal light modulation layers being on the observation side of the non-observation side one of the neighboring liquid crystal light modulation layers, the non-observation side one of the neighboring liquid crystal light modulation layers being in the selective reflection state, with respect to the substrate normal.

45. (Cancelled)

46. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 42, wherein, in any neighboring liquid crystal light modulation layers, an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the second substrate of an observation side one of the neighboring liquid crystal light modulation layers, the second substrate of the observation side one of the neighboring liquid crystal light modulation layers being on a non-observation side of the observation side one of the neighboring liquid crystal light modulation layers, the observation side one of the neighboring liquid crystal light modulation layers being in the selective reflection state, with respect to the substrate normal is larger than an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the first substrate of a non-observation side one of the neighboring liquid crystal light modulation layers, the first substrate of the non-observation side one of the neighboring liquid crystal light modulation layers being on the observation side of the non-observation side one of the neighboring liquid crystal light modulation layers, the non-observation side one of the neighboring liquid crystal light modulation layers being in the selective reflection state, with respect to the substrate normal.

47. (Cancelled)

48. (Previously Presented) A multilayer liquid crystal light modulation element comprising a plurality of liquid crystal light modulation layers stacked together, wherein at least one of said plurality of liquid crystal light modulation layers includes:

a liquid crystal light modulation element comprising a liquid crystal layer held between first and second substrates and including a liquid crystal material exhibiting a cholesteric phase and having a peak of a selective reflection wavelength in a visible wavelength range,

wherein said liquid crystal layer in a selective reflection state has pixel regions near the first and second substrates, and liquid crystal domains in the pixel regions near at least one of said first and second substrates are in a mixed state including a polydomain state and a monodomain state, and

an orientation control layer, said orientation control layer being on the at least one of said first and second substrates having near liquid crystal domains in said mixed state, and said orientation control layer being in contact with the liquid crystal layer,

wherein the liquid crystal domains in said mixed state and the selective reflection state are subjected to orientation control by the orientation control layer, and

wherein said orientation control is effected by a rubbing process effected on a side of said orientation control layer in contact with the liquid crystal layer having liquid crystal domains in said mixed state.

49. (Cancelled)

50. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 48, wherein, within one of the plurality of liquid crystal light modulation layers, an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the first substrate, the first substrate being on an observation side of the one of the plurality of liquid crystal light modulation layers, the one of the plurality of liquid crystal light modulation layers being in the selective reflection state, with respect to a substrate normal is larger than an angle of

the cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the second substrate, the second substrate being on a non-observation side of the one of the plurality of liquid crystal light modulation layers, the one of the plurality of liquid crystal light modulation layers being in the selective reflection state, with respect to the substrate normal.

51. (Cancelled)

52. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 48, wherein, in any neighboring liquid crystal light modulation layers, an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the second substrate of an observation side one of the neighboring liquid crystal light modulation layers, the second substrate of the observation side one of the neighboring liquid crystal light modulation layers being on a non-observation side of the observation side one of the neighboring liquid crystal light modulation layers, the observation side one of the neighboring liquid crystal light modulation layers being in the selective reflection state, with respect to a substrate normal is larger than an angle of a cholesteric helical axis of the liquid crystal material in the liquid crystal domains of each of the pixel regions near the first substrate of a non-observation side one of the neighboring liquid crystal light modulation layers, the first substrate of the non-observation side one of the neighboring liquid crystal light modulation layers being on the observation side of the non-observation side one of the neighboring liquid crystal light modulation layers, the non-observation side one of the neighboring liquid crystal light modulation layers being in the selective reflection state, with respect to the substrate normal.

53. (Cancelled)

54. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 50, wherein, in any neighboring liquid crystal light modulation layers, a rubbing density of the orientation control layer subjected to the rubbing process

and arranged in the observation side one of the neighboring liquid crystal light modulation layers is smaller than a rubbing density of the orientation control layer subjected to the rubbing process and arranged in a non-observation side one of the neighboring liquid crystal light modulation layers.

55-130. (Cancelled)

131. (Previously Presented) A liquid crystal light modulation element comprising:

a liquid crystal layer for modulating reflected light, the liquid crystal layer including a liquid crystal material exhibiting a cholesteric phase, the liquid crystal layer forming a plurality of pixel regions;

first and second substrates for holding the liquid crystal layer, the first substrate adjacent an observation side of the liquid crystal layer, the second substrate adjacent a non-observation side of the liquid crystal layer,

wherein, when the liquid crystal layer is in a selective reflection state, the pixel regions near the first and second substrates include liquid crystal domains, a first portion of each liquid crystal domain being in a polydomain state and a second portion of each liquid crystal domain being in a monodomain state.

132. (Previously Presented) A liquid crystal light modulation element according to claim 131, wherein the first portion of the liquid crystal domains in each of the pixel regions near the first substrate is greater than the first portion of the liquid crystal domain in a corresponding one of the pixel regions near the second substrate.

133. (Previously Presented) A liquid crystal light modulation element according to claim 131, further comprising an orientation control layer for controlling the orientation of the liquid crystal domains, the orientation control layer being positioned between the liquid crystal layer and at least one of the first and second substrates.



134. (Previously Presented) A liquid crystal light modulation element according to claim 133, wherein the orientation control is effected by a rubbing process performed on a side of the orientation control layer in contact with the liquid crystal layer.

135. (Previously Presented) A liquid crystal light modulation element according to claim 134, wherein a rubbing density of the orientation control layer subjected to the rubbing process is 10 or less.

136. (Previously Presented) A liquid crystal light modulation element according to claim 133, wherein the rubbing process is performed by illuminating a side of the orientation control layer in contact with the liquid crystal layer with light under a predetermined condition.

137. (Previously Presented) A liquid crystal light modulation element according to claim 136, wherein the predetermined condition is selected from the group consisting of an amount of light, a substrate temperature, and an incident angle of the light on the orientation control layer.

138. (Previously Presented) A liquid crystal light modulation element according to claim 136, wherein the illuminating emitted light is ultraviolet light.

139. (Previously Presented) A liquid crystal light modulation element according to claim 131, wherein, in the selective reflection state, an angle of the cholesteric helical axis of the liquid crystal material in each of the liquid crystal domains in the pixel regions near the first and second substrates with respect to a substrate normal is 20° or less.

140. (Previously Presented) A multilayer liquid crystal light modulation element comprising, from an observation side of the multilayer liquid crystal light modulation element:

a first substrate,

a first liquid crystal layer for modulating reflected light, the first liquid crystal

layer including a first liquid crystal material exhibiting a cholesteric phase, the first liquid crystal layer forming a plurality of first pixel regions;

a second substrate, the first and second substrates for holding the first liquid crystal layer;

a second liquid crystal layer for modulating reflected light, the second liquid crystal layer including a second liquid crystal material exhibiting a cholesteric phase, the second liquid crystal layer forming a plurality of second pixel regions; and

a third substrate, the second and third substrates for holding the second liquid crystal layer,

wherein, when the first liquid crystal layer is in a selective reflection state, the first pixel regions near the first and second substrates include first liquid crystal domains, a first portion of each first liquid crystal domain being in a polydomain state and a second portion of each first liquid crystal domain being in a monodomain state, and

wherein, when the second liquid crystal layer is in a selective reflection state, the second pixel regions near the second and third substrates include second liquid crystal domains, a first portion of each second liquid crystal domain being in a polydomain state and a second portion of each second liquid crystal domain being in a monodomain state.

141. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 140, wherein, within the first liquid crystal light modulation layer, an angle of a cholesteric helical axis of the first liquid crystal material in the first liquid crystal domains of each of the first pixel regions near the first substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to a substrate normal is larger than an angle of the cholesteric helical axis of the first liquid crystal material in the first liquid crystal domains of each of the first pixel regions near the second substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to the substrate normal.

142. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 140, wherein an angle of a cholesteric helical axis of the first liquid

crystal material in the first liquid crystal domains of each of the first pixel regions near the second substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to a substrate normal is larger than an angle of a cholesteric helical axis of the second liquid crystal material in the second liquid crystal domains of each of the pixel regions near the second substrate, the second liquid crystal light modulation layer being in the selective reflection state, with respect to the substrate normal.

143. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 142, wherein an angle of a cholesteric helical axis of the first liquid crystal material in the first liquid crystal domains of each of the first pixel regions near the second substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to the substrate normal is larger than an angle of a cholesteric helical axis of the second liquid crystal material in the second liquid crystal domains of each of the second pixel regions near the second substrate, the second liquid crystal light modulation layer being in the selective reflection state, with respect to the substrate normal.

144. (Previously Presented) A multilayer liquid crystal light modulation element comprising, from an observation side of the multilayer liquid crystal light modulation element:

- a first substrate;
- a first liquid crystal layer for modulating reflected light, the first liquid crystal layer including a first liquid crystal material exhibiting a cholesteric phase, the first liquid crystal layer forming a plurality of first pixel regions;
- a first orientation control layer, the first orientation layer being in contact with the first liquid crystal layer;
- a second substrate, the first and second substrates for holding the first liquid crystal layer;
- a second liquid crystal layer for modulating reflected light, the second liquid

crystal layer including a second liquid crystal material exhibiting a cholesteric phase, the second liquid crystal layer forming a plurality of second pixel regions;

a second orientation control layer, the second orientation layer being in contact with the second liquid crystal layer; and

a third substrate, the second and third substrates for holding the second liquid crystal layer,

wherein, when the first liquid crystal layer is in a selective reflection state, the first pixel regions near the first and second substrates include first liquid crystal domains, a first portion of each first liquid crystal domain being in a polydomain state and a second portion of each first liquid crystal domain being in a monodomain state, the first liquid crystal domains being subject to orientation control by the first orientation control layer,

wherein, when the second liquid crystal layer is in a selective reflection state, the second pixel regions near the second and third substrates include second liquid crystal domains, a first portion of each second liquid crystal domain being in a polydomain state and a second portion of each second liquid crystal domain being in a monodomain state, the second liquid crystal domains being subject to orientation control by the second orientation control layer, and

wherein the orientation control is effected by subjecting a side of the first and second orientation control layers in contact with corresponding first and second liquid crystal layers to a rubbing process.

145. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 144, wherein, within the first liquid crystal light modulation layer, an angle of a cholesteric helical axis of the first liquid crystal material in the first liquid crystal domains of each of the first pixel regions near the first substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to a substrate normal is larger than an angle of the cholesteric helical axis of the first liquid crystal material in the first liquid crystal domains of each of the first pixel regions near the second substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to the substrate normal.

146. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 144, wherein an angle of a cholesteric helical axis of the first liquid crystal material in the first liquid crystal domains of each of the first pixel regions near the second substrate, the first liquid crystal light modulation layer being in the selective reflection state, with respect to a substrate normal is larger than an angle of a cholesteric helical axis of the second liquid crystal material in the second liquid crystal domains of each of the pixel regions near the second substrate, the second liquid crystal light modulation layer being in the selective reflection state, with respect to the substrate normal.

147. (Previously Presented) A multilayer liquid crystal light modulation element according to claim 144, wherein, in any neighboring liquid crystal light modulation layers, a rubbing density of the first orientation control layer subjected to the rubbing process is smaller than a rubbing density of the second orientation control layer.